# Factors Influence The Utilization Of Community Participation (POSBINDU)

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**Abstract**

**Introduction**: Posbindu is a form of public participation to conduct early detection and monitoring of risk factors for non-communicable diseases (NCD), and where it was carried out in as an integrated-manner, routine and periodic event. Posbindu itself aimed to promotethe community participation in prevention and early detection of risk factors for non-communicable disease (NCD). Non-communicable diseases is the biggest killer in the world,causing approximately 60% of global deaths. More than 9 millions of all deaths related to NCD occurredunder the age 60 years old, and 90% premature deaths incidenceoccurs incountries where significant number of population were low income-population. In Indonesia, death related to NCD are growing in an alarming rate, from aproximately 41% at the year 1995, striking 59,5% at year 2007. According to Basic Health Survey of 2007, NCD related deaths ranked number 6 in a top ten Death list.The growing rate of NCD prevalence are to become a serious threat upon national Development, death risk from disease related conditon will negatively impact human resources nationwide, which the effect will surely not limited to health aspect only but expanded to economic aspect.Meanwhile, Posbindu program had not reach its popularity as it should have been. In some region, posbindu visits by locals has decreased. At the study area, existing data showed that, only as much as 10% of the local population was using Posbindu service. In many regions, Posbindu were deemed to merge with geriatric social health care, as the major user was the geriatric population.

**Objective**: to determine the factors that influence utilization of posbindu

**Methods**: This study was a cross-sectional study of 120 people in productive age (aged between 18-59 years) including individuals who nevervisit posbindu. In this study there were 3 groups of factors that can affect utilization of posbindu, the predisposing factors (age,sex,education level,occupation, knowledge from cader counsels,understanding about posbindu, awarrness, distance to posbindu, administration fee), and the reinforcing factors (family support, socialization of posbindu). Data were collected from February 2015 through to March 2015.

**Results**: Respondents who do not utilize posbindu service are as many as 25% while 75% of respondents utilize posbindu. At bivariate analysis, we found several significant relationship between independent variable and utilization of posbindu : age (OR=3.46 ; 95% Confidence interval 0.96-12.43), education level (OR=0.17 ; 95% Confidence interval 0.03-0.772), knowledge (OR=3.82 ; 95% Confidence interval 1.60-9.09), awareness (OR=3.76 ; 95% Confidence interval 1.44-9.82), family support (OR=1.84 ; 95% Confidence interval 0.79-4.27), significant relationship between socialization of posbindu and utilization of posbindu (p=0.000), and also administration fee (OR=4.57 ; 95% Confidence interval 1.88-11.06). Multivariate analysis shows that respondent with higher education tend not to utilize posbindu service (OR=0.17 ; 95% Confidence interval 0.03-0.89), and those who did not mind for administration fee have the greater possibility to utilize posbindu service (OR=3.79 ; 95% Confidence interval 01.33-10.80)

**Conclusion**: Several factors were conceived as aspects that affected the utilization of the Posbindu, but the level of education and administration fee are more prominent. Necessary efforts

need to be conducted for people in productive age to promote their health, especially in community participation.

**Keywords:** Community participation, Non-communicable Diseases,Posbindu,Productive age, Utilization

## Introduction

Non-communicable diseases (NCD) is the biggest killer in the world,causing more than 60% of global deaths [1,2]. World Health Organization (WHO) estimated thatat 2020 NCD will be the cause of at least 73% mortality rate and 60% of the total morbidity rate.Of the estimated 14.5million total deaths in 2008 in SEAR, 7.9 million (55%) were due to NCDs. Deaths from NCD are expected to increase by 21%over the next decade. Of the 7.9 million annual NCD deaths in SEAR,34% occurred before the age of 60 years compared to 23% in the rest of the world [3].In Indonesia, death related to NCD were growing in an alarming rate, from aproximately 41% at the year 1995, striking 59,5% at year 2007.[4]

According to Basic Health Survey of 2007, NCD related deaths ranked number 6 in a top ten Death list. In respect of the regional condition and type, in rural area, infectious disease holds the largest percentage mortality rate in the group of 45-54 years old (25%) compared to the urban area (14%), meanwhile NCD related mortality rate is larger in urban area (62%) compared to rural area (48%.). At group age 45-54 years the proportion of NCD is significantly larger compared to the female counterpart. The most common cause of mortality in female group for NCD is Diabetes Mellitus (16%), where the largest mortality cause in male group for NCD is stroke attack (16%) [5]. In conducted interviews, it is shown that there is an increase of hypertension prevalence (this is acquired from asking the survey group whether or not they are diagnosed of hypertension from a medical worker, or in hypertension medication regime) from 7,6 % in 2007 to 9,5% in 2013 (Based on their answers and symptoms). There is also surge in Diabetes mellitus rate(also acquired via interview) from 1,1 % (2007) to 2.1 % (2013) [5,6]. Several factors were already well-known as risk-factors inducing NCD. In public health context, emphasis in any surveillance system should be given to those risk factors that are amenable to modified. Surveillance of just eight selected risk factors (smoking, alcohol, nutrition, physical inactivity, obesity, blood pressure, blood glucose, blood lipids), which reflect a large part of future NCD burden can provide a measure of the success of interventions. [7]

World Health Organization (WHO) central and regional office in collaboration with other member countries have developed an intervention program to control risk factors of major NCDs (cardiovascular diseases, diabetes mellitus, and particular cancer) through an integrated community based program. Process evaluation showed that the Community Based Intervention (CBI) approach brings 'Posbindu PTM' as potential activities for NCD control and prevention program. Outcome evaluation resulted that the community based intervention of NCD prevention and control program that had been conducted for three years in Depok, Indonesia, had significantly reduced the prevalence of several common risk factors, such as obesity, hypertension, hyperglycemia, hypercholesterol, and high risk or combined risk factors (having three or more risk factors) and also considerably reduced the prevalence of diabetes mellitus. Meanwhile, smoking, less physical activity, and fruits and vegetable consumption also decreased but not significantly [8].

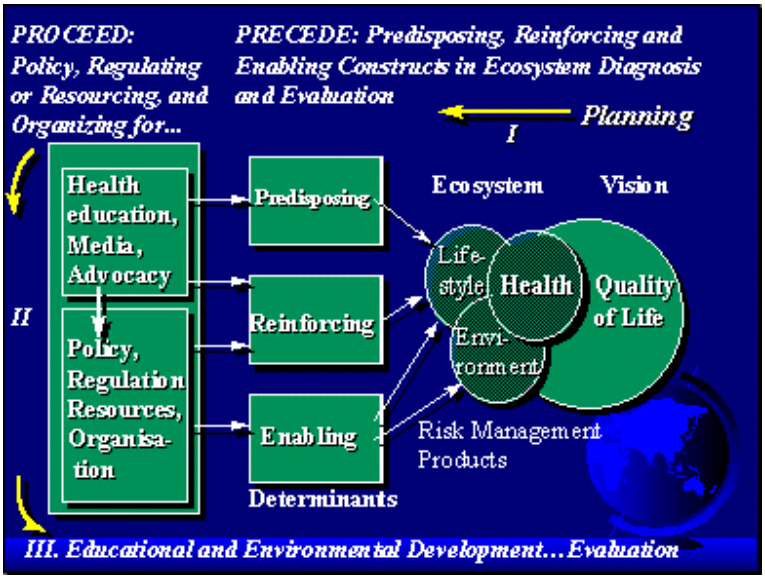
Posbindu is a form of public participation to conduct early detection and monitoring of risk factors for non-communicable diseases (NCD), and where it was carried out in as an integrated-manner, routine and periodic event. Posbindu itself aimed to promote the community participation in prevention and early detection of risk factors for non-communicable disease (NCD) [9]. Published research about Posbindu is still rare, but preliminary study at the study area, showed that, only as much as 10% of the local population was using Posbindu service. In many regions, Posbindu were deemed to merge with geriatric social health care, as the major user was the geriatric population.
The objective of this study is to determine factors associated with the utilization of Posbindu, and limited to internal factors from the study subject.

## Methods

The design used in this study was a cross sectional study. The study was conducted in one of the region in the Mampang subdistricts, South Jakarta. South Jakarta was one of the municipality that already have Posbindu running in its subdistricts. Ultimately this particular region was chosen for the reason that posbindu was already carried out as a program for approximately one year.

Inclusion criteria were age 18-59 years old, permanent resident of the district for at least one year, daily mobile activity. Exclution criterias were cadres of Posbindu/posyandu, residents with mental health issues. 120 subjects were chosen according to cluster random sampling and simple random sampling.
Factors associated with the utilization of Posbindu in this study were derived from PRECEDE Theory (PRECEDE : Predisposing, Reinforcing, and Enabling Contruct in Ecosystem Diagnosis and environment) and Behavioral Model of Health Services Use (BM) [10.11].

The PRECEDE (Predisposing, Reinforcing, and Enabling Constructs in Educational Diagnosis and Evaluation) framework, categorizes psychosocial variables into 3 main categories: predisposing, reinforcing, and enabling factors.
Predisposing factors are antecedents that influence the likelihood of how one will behave and include the individuals' knowledge, attitudes,beliefs, and self-efficacy. Reinforcing factors are incentives following a behavior that may affect the likelihood that this behavior will be repeated over time, such as social support, peer influence, and rewards. Enabling factors help facilitate behavior and include programs, services, and resources necessary for a behavior to occur [10].




Adapted from Green L. http://www.lgreen.net/precede.htm

Behavioral Model of Health Services Use (BM) from Andersen proposed that the use of health care services is a function of three sets of individual characteristics: (i) predisposing characteristics, e.g. age, household size, education, number of previous pregnancies, health-related attitude; (ii) enabling characteristics, i.e. income, characteristics of health care system and accesses, and availability of health facilities; and (iii) need characteristics, i.e. characteristics of illness, perceived health status, and expected benefit from treatments [11].
Dependent variable of this study were : attendence/utilization of Posbindu, meanwhile the independent variable were the predisposing factors (age, gender, education level, occupation, individual's knowledge of Posbindu, individual's perception of health),enabling factors (transportation mode to Posbindu, distance to Posbindu, administration fee), reinforcing factors (family support, socialization of posbindu). Interviews conducted by the manner of door-to-door, by trained cadres. The attendance/utilization of Posbindu was considered as done if the local interviewed, have utilized the posbindu as many as once a year to follow through the posbindu activity roster.Univariateanalysis were done by frequency distribution in percentage, bivariate analisis using Chi-square test dan Fisher exact tes. Multivariate test was run using Regresive logistic analysis.

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**Result**

**Table 1 : Characteristic of Predisposing, Enabling and Reinforcing factors**

| Predisposing, Enabling,and Reinforcing factors | | n | % |
|---|---|---|---|
| Age | 45 - 59 years | 28 | 23.3 |
| | < 45 years | 92 | 76.7 |
| Gender | Male | 26 | 21.7 |
| | Female | 94 | 78.3 |
| Education | Higher education | 8 | 6.7 |
| | Middle-Lower education | 112 | 93.3 |
| Employment | Employe | 53 | 44.2 |
| | Unemploye | 67 | 55.8 |
| Knowledge about Posbindu | better | 73 | 60.8 |
| | less | 47 | 39.2 |
| Health perception | aware | 97 | 80.8 |
| | unaware | 23 | 19.2 |
| Understanding consultation | better | 79 | 87.8 |
| | less | 11 | 12.2 |
| Enabling factors | | | |
| Transportation to Posbindu | easy | 114 | 95.0 |
| | difficult | 6 | 5.0 |
| Distance | near | 114 | 95.0 |
| | far | 6 | 5.0 |
| Administration fee | no reluctance | 86 | 71.7 |
| | reluctance | 34 | 28.3 |
| Reinforcing Factors | | | |
| Family support | supported | 77 | 64.2 |
| | unsupported | 43 | 35.8 |
| Socialization of Posbindu | Yes | 112 | 93.3 |
| | No | 8 | 6.7 |
| | Total | 120 | 100.0 |

Table 1 shows that majority of respondent is female (78.3%), at age <45 years (76.7%), in the middle-low education (from not educated untill junior high school). There were 55.8% of them unemploye. But 60.8% bave better/sufficient knowledge about Posbindu, and most of the respondent (80.8%) were already awareabout health and prevention (but this was just from their perception about their health, disease and the prevention). Among they who had visited the Posbindu, 87.8% have better understanding of the consultation that made according their health problem. Most of them consider that distance and transportation were not major problems. Not all of them recieved support from the family (just only 64,2% who have support from their family). Majority of the respondent have heard about Posbindu through the socialization of Posbindu. Only 6.7% said that there weren't any socialization about Posbindu.

| | Utilization of Posbindu | | | | |
|---|---|---|---|---|---|
| | **Attended** | **Not attended** | **p** | **OR** | **95 % CI** |
| Age | | | | | |
| 45 - 59 years | 25 (89.3%) | 3 (10.7%) | 0.046* | 3.46 | (0.96 – 12.43) |
| < 45 years | 65 (70.7%) | 27 (29.3%) | | | |
| Gender | | | | | |
| Male | 19 (73,1%) | 7 (26.9%) | 0.79 | 0.87 | (0.33 – 2.36) |
| Female | 71 (75,5%) | 23 (24,5%) | | | |
| Education | | | | | |
| Higher education | 3 (37.5%) | 5 (62.5%) | 0.011* | 0.17 | (0.04 – 0.77) |
| Middle and lower education | 87 (77.7%) | 25 (22.3%) | | | |
| Occupation | | | | | |
| Employed | 39 (73.6%) | 14 (26,4%) | 0.75 | 0.87 | (0.38 – 2.0) |
| Unemploye | 51 (76.1%) | 16 (23.9%) | | | |
| Knowledge about Posbindu | | | | | |
| Better | 62 (84.9%) | 11 (15.1%) | 0.002* | 3.82 | (1.61 – 9.09) |
| Less | 28 (59.6%) | 19 (40.4%) | | | |
| Health perception | | | | | |
| Aware | 78 (80.4%) | 19 (19.8%) | 0.005* | 3.76 | (1.44 – 9.82) |
| Unaware | 12 (52.2%) | 11 (47.8%) | | | |
| Transportation | | | | | |
| Easy | 87 (76.3%) | 27 (23.7%) | 0.164 b | 3.22 | (0.61 – 16.90) |
| Difficult | 3 (50%) | 3 (50%) | | | |
| Distance | | | | | |
| Near | 87 (76.3%) | 27 (23.7%) | 0.164 b | 3.22 | (0.61 – 16.90) |
| Far | 3 (50%) | 3 (50%) | | | |
| Family support | | | | | |
| Supported | 61 (79.2%) | 16 (20.8%) | 0.153 | 1.84 | (0.79 – 4.27) |
| Unsupported | 29 (67.4%) | 14 (32.6%) | | | |
| Socialization of Posbindu | | | | | |
| Yes | 90 (80.4%) | 22 (19.6%) | 0.000*b | - | - |
| No | 0 | 8 (100%) | | | |
| Administration fee | | | | | |
| No reluctance | 72 (83.7%) | 14 (16.3%) | 0.000* | 4,57 | (1.89 – 11.06) |
| Reluctance | 18 (52.9%) | 30 (25.0%) | | | |

**Table 2 : Factors associated with the utilization of Posbindu**

* significant at < 0.005
[b] Fisher exact test

Table 2 shows that there were some significant relationship that influence utilization of Posbindu (age, education, knowledge about Posbindu, health perception, socialization about Posbindu, and aministration fee), although two of them didn't support by the 95 % confidence interval (age, and socialization of Posbindu). Seven factors with p value > 0.25 were enter the multivariate analysis through logistic regression analysis. Age, education, knowledge about Posbindu, health perception, family support, socialization of Posbindu, and administration fee were enterlogistic regression analysis to determine which was the factors that most influence the utilization of Posbindu.
In table 3, Logistic regression analysis show that only two factors have more prominent significant association with the utilization of Posbindu, namely education and administration fee. They who had middle-lower education have the protective effect to not utilize the Posbindu (OR = 0.178 95% CI 0.03– 0.89) if compare with they who had higher education. They who reluctant to administration fee have probability 3,79 higher to not utilize the Posbindu.

Table 3 : Relationship between education level and administration fee with utilization of Posbindu

| | B | Sig. | Exp(B) | 95% C.I.for EXP(B) | |
|---|---|---|---|---|---|
| | | | | Lower | Upper |
| Education(1) | -1.728 | .036 | .178 | .035 | .892 |
| Administration(1) | 1.333 | .013 | 3.791 | 1.331 | 10.802 |
| Constant | -21.994 | .999 | .000 | | |

**Discussion**

In this study the most prominent variable which associated with utilization of Posbinduis education level and administration fee. In this study, Posbindu service seems to be more utilized by group with lower level of education.This fact actually contradicts the theory that suggests the higher level education local group the higher the possibility to attend public health facilities. Chakraborty et all (2003) in her study showed that women withsecondary or higher education are almost 1.8 times more likely to seek treatment from doctors/nurses to treat their antepartum morbidities [12]. But Bovet et all (2008) in his prospective study found no significant association between education level and utilization of health care services following screening for hypertension, although there was a slightly decrease in the attendance regarding the increase of their level of education [13]. In this study, level of education is not always determine people's behavior, because there is a knowledge that can derived not only for education, but from socialization, because the percentage socialization is high in this study (as much as 93.3% of respondent said there were any socialization about Posbindu in their area, so maybe this can improve their knowledge about Posbindu, althought, there is a fact too, that people with highier education can more easy to receive information/something new [14]. The second problem is administration fee, this study shows they who reluctant to administration fee have probability 3,79 higher to not utilize the Posbindu. Administration fee in Posbindu were used for example to buy stick for glucose blood, cholesterol blood, trigliserid blodd, for IVA examination, and other examination. Actually, not every type of Posbindu has to do the blood examination. Posbindu is classified into 2 groups : basic and main. In basic Posbindu, there're just early detection for risk factors by doing interview, and by measurements of BMI, abdominal circumference, blood pressure, and there is counceling/consultation about risk factors. In main Posbindu, just like basic Posbindu, and for additional, there are blood examination (blood glucose, cholesterol, trigliserid), Clinical Breast Examination (CBE), sphirometry, urinary amphetamine and alcohol test.

But in the field, usually we found basic Posbindu with additional blood examination, but only blood glucose and cholesterol, and usually, the people who visit Posbindu wants to know their blood examination. Technical guidance book of Posbindu said that Posbindu could cooperate with another sector to do the activity, like local clinic, non government organization (NGO), pharmacy [15], but it depends on the policies and ability of the posbindu and the team to gain the network. Acctually, the examination of risk factors in Posbindu haven't always do all the time. There are some schedule for examination, like examinations for blood glucose at least every 1-3 years for healthy people, at least every 1-2 years for who have another risk factor for NCD, and at least one in a month for diabetes mellitus patients [4]. But, recording and reporting is still a problem for several Posbindu, so to know the individual schedule sometime could be difficult, even though the government through Ministry of Health has built the instruments for it. As a community participation, Posbindu program has been annaunced by the government through Ministry of Health to be done in Puskesmas (Primary Health Care). They have provide the needs of Posbindu and some regulations, but there must be another efforts, for example periodically training for those in the fields, and clear guidance to maintain the sustainability of the program. As describe above, and from another experience [16,17,18,19], community participation/community base program is an effective program to control risk factors of major NCDs, and it has significant contribute to global health. Health is a central goal and an important outcome of development. Development can only be sustainable if social and economic dimensions are considered at all levels and stages. A community or country cannot be graded as developed on the basis of high per capita income, if its people are illiterate, have poor health status and lack the infrastructure necessary for a healthy lifestyle. Therefore sustainable development should always be measured in terms of social indicators mainly health, reduction of absolute poverty and improvement in the quality of life. Health and poverty reduction has therefore assumed the highest priority on the agenda of most international development agencies [20]. Health promotion is included in one of the new agenda of 17 Sustainable Development Goals with 169 associated targets which are integrated and indivisible [21].

Limitation of this study was not included the external factor that influence the utilization of Posbindu, like mentioned above as PROCEED (Policy, Regulating and Resource, Organization, including health education, media, and advocacy), and just limited to narrow area..

**Conclusion**

This study demonstrated that the main factors associated with utilization in this study were education and administration fee. Education, socialization, and knowledge about Posbindu could help in the utilization of Posbindu. Administration fee should not be the big problem in the term of utilization, but there must be some efforts to be done, either by the authorized or the community.

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| | |
|---|---|
| - 1995 - present | Indonesian Medical Association (IDI) |
| - 1999 - present | Indonesian Epidemiology Network (JEN) |
| - 2001 - present | The Indonesian Public Health Association (IAKMI) |
| - 2003 - present | Association of Indonesian Clinical Nutrition (PDGMI) |
| - 2012 – present | Asia Pacific Problem Based Learning Studies |

**PUBLICATIONS**

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